

**REMARKS**

(1) Claims 1-19 are pending in this application. Claim 3 has been written into independent form including all the limitations of claim 1. Claims 9-16 are withdrawn from consideration.

(2) Claims 1-8 and 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Soane et al. (U.S. Patent No. 6,379,753) in view of Hirano et al. (JP 2000-017572).

(i) The Examiner states that “[i]n preferred embodiment, a graft copolymer is provided that consists of a hydrophilic backbone *with hydrophobic polymer grafts*,” page 6, lines 7-9 of the outstanding Office Action. Since Soane et al. teach not a hydrophilic treatment, but a hydrophobic treatment of fiber or cellulose, Soane et al. cannot be combined with Hirano because of teaching away.

Soane et al. teach modifying textile to impart water repellency (col. 1, lines 19-20). Soane et al. further teach modifying a variety of textile fiber materials to improve “water repellency,” “grease repellency,” and “detergent free washing” (col. 5, line 1-3). Soane et al. disclose that “the *hydrophobic* groups are covalently attached (col. 10, lines 10-11).” Soane et al. teach improving water resistance and increasing the *hydrophobicity* (col. 4, lines 49-50; col. 5, lines 8-9). The improvement of the “water repellency” is obtained by the hydrophobic treatment.

Although the Examiner states at page 6 of the Office Action that “The graft copolymer is applied to the materials, such as cotton fabric (a hydrophilic surface) to produce a durable hydrophilic coating (col. 13, lines 4-6),” the durable hydrophilic coating with hydrophobic polymer grafts must be less hydrophilic than the original polymer before the Soane’s treatment gives hydrophobic polymer grafts to the fabric. Soane et al. teach “multifunctional polymers” including hydrophobic groups and hydrophilic groups (col. 12, lines 39-41), but Soane et al. further teach that these multifunctional polymers are used to form *hydrophobic water repellent* coatings (col. 12, lines 42-44). Thus, Soane et al. teach modifying the hydrophilic fiber backbone with hydrophobic polymer grafts (col. 13, lines 2-7). Thus, Soane et al. teach not a hydrophilic treatment but a hydrophobic treatment of fiber or cellulose.

On the contrary, Hirano et al. teach a hydrophilicization treatment of cellulose (Abstract). The teaching by Hirano et al. brings the effects opposite to the Soane’s hydrophobic treatment of fiber or cellulose.

The Examiner states that “it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the hydrophilicization treatment as taught by Hirano in the method as disclosed by Soane et al. in order to further enhance the final fiber products with an anti-yellowing function.” Page 7 of the outstanding Office Action. The Examiner seems to consider that the Hirano’s treatment can be further applied after carrying out the Soane’s treatment. However, doing so will undermine the effects obtained by Soane et al.

One skilled in the art does not do so. “There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” KSR International v. Teleflex, 127 S.Ct 1727, 1741 (2006). Since Soane et al. teach a hydrophobic treatment whereas Hirano et al. teach a hydrophilicization treatment, the Examiner’s legal conclusion of obviousness is not rationally supported by articulated reasoning.

(iii) Moreover, Hirano teaches providing cellulose with an anti-yellowing function by the hydrophilicization treatment, which can be accomplished by increasing the moisture absorption of cellulose by 110% or more, compared with the raw material. *See* paragraphs [0016]-[0017] of Hirano et al. On the contrary, the method by Soane et al. makes the fiber or cellulose impart water repellency (col. 1, line 20). It is unpredictable if fiber or cellulose, treated by Soane et al., can be then treated by Hirano et al. to increase the moisture absorption of cellulose by 110% or more, compared with the raw material, in order to give an anti-yellowing function. The treatment by Soane et al. reduces the moisture absorption of the cellulose. Hirano et al. teach treating cellulose which itself is hydrophilic, but Hirano et al. do not teach hydrophilic treatment for fiber or cellulose whose hydrophilic feature is reduced or deteriorated. Namely, it is unpredictable if the Hirano’s teaching can work on the fiber which is made hydrophobic in advance in accordance with Soana et al. Thus, claims 1, 3 and 17 are not obvious over the cited references.

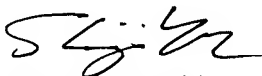
Amendment under 37 C.F.R. § 1.116  
Application No. 10/564,091  
Attorney Docket No. 053482

(iv) Claim 3 further recites that “the moisture absorption ratio of the cellulose fiber is adjusted to be 7.1% or higher by the hydrophilization treatment.” Claim 17 has a similar limitation. Since Soane et al. teach hydrophobic treatment, so that the cellulose treated by Soane et al. does not meet the claimed requirement.

(3) In view of above, Applicants submit that that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date. If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number indicated below to arrange for an interview to expedite the disposition of this case. If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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